



SASKATCHEWAN GOVERNMENT INSURANCE

Canada

Automated OS/OW System Protects Infrastructure & Enhances Efficiency

Saskatchewan's roads and infrastructure connect the prairie province of 1.1 million people to the rest of Canada and beyond. The proper management and maintenance of Saskatchewan's 160,000 km of roads (of which 26,288 km are highways) and 785 bridges support trade and investment, increase transportation safety, and enhance quality of life.

The agriculture, mining, and particularly oil and gas production industries rely on this infrastructure to supply their operations with materials and equipment and carry their goods to market. The carriers and fleets that support these industries often require oversize/overweight (OS/OW) vehicle permits from Saskatchewan Government Insurance (SGI), the organization responsible for permitting.

Of all the Canadian provinces, Saskatchewan has the most road surface, including ice roads that provide cost-effective winter transportation to remote areas normally accessible only by air. Saskatchewan's Ministry of Highways and Infrastructure (MHI) has established allowable weights and sizes for all highways and bridges within the province, with various restrictions due to construction and other circumstances, as well as seasonal variances. For example, during winter, heavier weights are permitted on highways. In addition, ice road restrictions and access may vary significantly due to environmental factors.

The phrases, "too heavy," "too wide," "too tall," and "too long" describe so many of the commercial vehicles traveling Saskatchewan's highways, that on a typical day SGI's 19-member permitting team issues 350 to 400 OS/OW permits and route maps to mitigate the impact on MHI's infrastructure and enhance safety and efficiency. On average, they handle about 50 permits per person per individual shift, which is eight to 12 hours and staggered from 6:00 a.m. to 10:00 p.m., seven days a week. This average doesn't include faxed, e-mailed, or mailed permit requests.



FROM PAPER MAPS TO AUTOMATION

For years, SGI and its permit administrators had relied on the epitome of legacy systems – pens, paper maps, push pins, sticky notes, and highlighters – to determine the distances and map the routes required to issue permits. The system was time-consuming, labor intensive, and vulnerable to human error. Truckers had to wait for permits and also faced challenges if their route needed to change after the permit was processed. As there was no way of communicating a new route to drivers, they faced construction delays, longer routes, or backtracking because the infrastructure couldn't accommodate their vehicle, resulting in decreased productivity and profitability.

To better handle this heavy workload, support truckers, and protect the public and the province's infrastructure, SGI's permit representatives needed instant access to timely data in one location. SGI sought to automate mapping and calculations to ensure permits are specific, current, and accurate. It wished to enhance efficiency and accuracy by centralizing all the resources required to update and access restrictions. It also needed to expedite the process and eliminate errors resulting from permit representatives' reliance on legacy, manual processes.

“Overall, SGI's OS/OW system doesn't change our internal workflow, although it has automated a number of the manual tasks that were particularly tedious and time-consuming.”

In partnership with Hexagon Safety & Infrastructure, SGI launched a new, fully automated routing, mapping, and permitting system to ensure accuracy, enhance efficiencies, and streamline the process. The overriding goal is to get truckers and their OS/OW cargo onto the ideal roads with the relevant permit as quickly as possible. The automated system calculates and produces more detailed routes and permits that can ultimately save the drivers' time, protect the province's infrastructure, and keep roads safer.

“The new way tells us the safest, quickest, and most efficient route,” said Curtis Mead, director of vehicle registration policy and permit services.

AT A GLANCE

» The Challenge

SGI's permit office and its 19-member team typically issue 350 to 400 OS/OW permits daily. Permit representatives relied on pens, paper maps, push-pins, and sticky notes to determine routes and calculate the distances to be travelled. The system was time-consuming, labor intensive, and vulnerable to human error.

» The Solution

In partnership with Hexagon Safety & Infrastructure, SGI launched a new, fully automated OS/OW routing, mapping, and permitting system to ensure accuracy, enhance efficiencies, and streamline the process. Because Hexagon successfully integrated its OS/OW system into the existing SAM permitting system, SGI permit representatives were immediately comfortable with it. The automated system now calculates and produces more detailed routes and permits that can ultimately save the driver's time, protect the province's infrastructure, and keep roads safer.

INTEGRATED ROUTING & PERMITTING

SGI's permitting staff use SAM, an internally developed system, to create the permit and capture all relevant information, like the vehicle size, weight, height, and length. When a route is requested, SAM transfers the vehicle information to Hexagon's fully integrated OS/OW system for route planning and processing. Because Hexagon successfully integrated its OS/OW system into the SAM system, SGI permit representatives were immediately comfortable with it.

“Overall, SGI's OS/OW system doesn't change our internal workflow, although it has automated a number of the manual tasks that were particularly tedious and time-consuming,” said Mead.

The permit representatives utilize a map-based application within the route planner system to establish the route starting point, final destination, and intermediate stops. The

optimum route is then created by comparing the vehicle parameters to network restrictions, such as bridge and roadway weight limits, roadway widths and heights, and any temporary restrictions related to construction or weather using MHI's real-time roadway data. A safe and restriction-free route is then generated with the exact distance and road classifications to determine the permit cost, which is sent back to SAM for billing.

At a glance, SGI permit representatives see all the current highway infrastructure information pulled from MHI. They need to provide carriers with routes tailored to each trucks' individual specifications, as well as that specific trip's load, without jumping from site to site or software to software.

"Before the Hexagon solution, reps had to put the customers [typically, large commercial truckers] on hold just to count how many kilometers they were travelling on each segment of road," said Mike Kline, manager of vehicle registration policy and permit services. "One of the employees had to go through the highway hotline and manually put a sticky note on every employee's map where there was a new or temporary restriction or construction site."

CUSTOMER SATISFACTION

SGI e-mails permits, accompanied by the mapped route and applicable conditions, to customers to expedite access to the information and ensure the route and conditions are clear and confirmed. Routes regularly travelled by trucks of a certain weight and size or facing particular restrictions can be saved so they're immediately available whenever that customer requests a permit.

"Now, when drivers receive routes generated by the OS/OW solution through SAM, they know they'll be safe on whatever bridges and overpasses they need to travel over or under," said Mead.

If a new restriction comes into play after the permit has been issued, which might require navigating around the restriction, the system apprises the customer of the change in route through an automated e-mail. Commercial truckers know that unexpected delays increase their unproductive time on the road and increase costs. SGI's OS/OW solution helps them avoid costs and better plan for unforeseen events. Importantly, because the system accurately computes the distances to be travelled and the resulting fees, the permit now reflects the true cost.

Currently, about 22 percent of carriers self-issue their permits by logging into SAM rather than phoning in to obtain permits. They've found Saskatchewan's new mapping system is more intuitive and user-friendly. Self-issuers had previously manually calculated their routes and appreciate the system's automated number-crunching capabilities.

Moving forward, SGI plans to increase its online permitting capabilities so customers can go online to obtain their permits, maps, and routes without interacting with SGI's permit representatives.

About Hexagon Safety & Infrastructure

Hexagon Safety & Infrastructure provides mission-critical and business-critical solutions to governments and service providers. A global leader, proven innovator, and trusted partner, our software and industry expertise help improve the lives of millions of people through safer communities, better public services, and more reliable infrastructure. Visit hexagonsafetyinfrastructure.com.

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